CLAIMS:

1. A thin film pattern disposed on at least one of two substrates, the pattern comprising:

a first end and a second end with electrical continuity between the first end and the second end of the pattern; and

an electrically conducting material interspersed in at least one region of the pattern in which there is an absence of electrically conducting material.

2. The thin film pattern of claim 1, wherein the pattern occupies a surface area on at least one of the two substrates and the electrically conducting material is at least 10% of the surface area.

3. The thin film pattern of claim 2, wherein the electrically conducting material in at least one region of the pattern is interspersed with a multiplicity of circular shaped absences of electrically conducting material.

4. The thin film pattern of claim 3, wherein the circular shaped absence of electrically conducting material has a diameter less than any linear dimension of the thin film pattern.

5. The thin film pattern of claim 4, wherein the circular shaped absence of electrically conducting material is more than 1 micron in diameter.

6. The thin film pattern of claim 1, wherein at least a portion of the pattern is honeycomb shape, the honeycomb shape comprising a plurality of areas with electrically conducting material interspersed and a plurality of areas in which there is an absence of electrically conducting material.

7. The thin film pattern of claim 1, wherein the electrically conducting material is interspersed in at least one region with a multiplicity of polygonal shaped absences of electrically conducting material.

8. The thin film pattern of claim 1, wherein the pattern comprises a portion of the data/signal lines of a liquid crystal display panel, and a portion of the pattern is in contact with a glue seal that requires curing by photolytic means.

9. The thin film pattern of claim 1, wherein the at least one region of the pattern in which there is an absence of electrically conducting material includes a pattern that has been removed by use of an etchant.

10. The thin film pattern of claim 1, wherein the absence of electrically conducting material of the pattern has been removed by use of plasma.

11. A display structure comprising:

a first substrate and a second substrate;

a curable sealant disposed on the periphery between the first substrate and the second substrate;

a liquid crystal material disposed in between the first and the second substrates; and

an electrically conducting thin film pattern disposed on at least one of the first substrate or the second substrate interspersed in at least one region of the pattern in which there is a multiplicity of absences of electrically conducting material.

12. The display structure of claim 11, wherein the curable sealant comprises at least one of a photolytically activated seal, a heat activated seal, or a photolytically and heat activated seal.

13. The display structure of claim 11, wherein the at least one region of the pattern in which there is a multiplicity of absences of electrically conducting material defines a surface area of the pattern that is not greater than 90% of the surface area of the pattern.

14. The display structure of claim 13, wherein in the at least one region of the pattern a shape of the multiplicity of absences of electrically conducting material is circular.

15. The display structure of claim of claim 14, wherein the circular shape has a diameter less than any linear dimension of the pattern.

16. The display structure of claim 15, wherein the pattern comprises at least one linear dimension and the circular shape has a diameter less than the at least one linear dimension of the pattern.

17. The display structure of claim 13, wherein at least a portion of the pattern is a honeycomb shape, the honeycomb shape comprising a plurality of areas with electrically conducting material interspersed with a plurality of areas in which there is an absence of electrically conducting material.

18. The display structure of claim 13, wherein the electrically conducting thin film pattern disposed on at least one of the first substrate or the second substrate interspersed in at least one region of the pattern in which there is an absence of electrically conducting material is in the shape of a polygon.

19. A method for curing a sealant disposed behind an electrically conducting thin film pattern interspersed with voids of electrically conducting material, the method comprising the steps of:

directing radiation towards a thin film pattern so the sealant is exposed to the radiation and is thereby aided in curing; and

varying an angle of incidence of the radiation, with respect to the thin film pattern, so the sealant located in the penumbra of the thin film pattern is exposed and it is thereby aided in curing.

20. The method for curing a sealant of claim 19 wherein the step of directing radiation includes directing radiation with an intensity set to cause the thin film pattern to heat up to a predetermined temperature and thereby aid in curing the sealant.

SYSTEM AND METHOD FOR PRODUCING THIN FILM PATTERNS INTERSPERSED WITH VOIDS TO ADMIT LIGHT TO OTHERWISE SHADOWED REGIONS

ABSTRACT OF THE INVENTION

A metallized pattern, used as an electrical conductor, is altered by means of standard lithographic processes to have regions of interspersed missing metal, or voids, in a specified region of the pattern. The voids in the conducting pattern allow radiation, emanating from various angles, to penetrate through the voids so that a glue seal, disposed underneath the pattern, can be exposed to the radiation and thus activated and cured. The preferred application is found in flat panel displays where radiation is required to cure a glue seal that affixes two substrates to one another. The openings in the metallized pattern in the region of the glue seal minimize the shadowing, caused by the solid portions of the pattern, which can result in the lack of glue seal curing or polymerization. The absence of shadowing assures that the glue seal is fully cured and will not contaminate the liquid crystal after final processing.

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